CATALOG DOCUMENTATION
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE
1997-1998 Mid-Atlantic Integrated Assessment Program
Field Chemistry (cond, DO, temp) Data

TABLE OF CONTENTS

1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
1997-1998 Mid-Atlantic Integrated Assessment Program
Field Chemistry (cond, DO, temp) Data

1.2 Authors of the Catalog Entry
U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date
August 2000

1.4 Data Set Name
INSITU

1.5 Task Group
Surface Waters

1.6 Data Set Identification Code
136

1.7 Version
001

1.8 Requested Acknowledgement
These data were produced as part of the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP). If you publish these data or use them for analyses in publication, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency through its EMAP Surface Waters Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement of the conclusions should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigator

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2.2 Investigation Participants - Sample Collection

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State of West Virginia
State of Maryland
University of Maryland
U.S. Environmental Protection Agency
Office of Research and Development
Region III

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The data set contains the results of in situ measurements of dissolved oxygen (DO), specific conductance (including conductance of the quality control sample) and stream temperature.

3.2 Keywords for the Data Set

Dissolved oxygen, in situ , specific conductance, Temperature

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

In 1997 and 1998 the Ecological Monitoring and Assessment Program (EMAP) Surface Waters Program became a collaborator in the Mid-Atlantic Integrated Assessment (MAIA) project, which is attempting to produce an assessment of the condition of surface water and estuarine resources. The MAIA project represents a follow-up to the MAHA study, with an expanded geographic scope (southern New York to northern North Carolina, with more sites located in the Piedmont and Coastal Plain regions) and a different index period (July-September).

4.2 Data Set Objective

This data set is part of the MAIA project to characterize spatial and temporal variability of ecological indicators and demonstrate the ability of a suite of ecological indicators to estimate the condition of regional populations of aquatic resources.

4.3 Data Set Background Discussion
The primary function of the in situ measurements is to provide field measurements of specific conductance (conductivity), dissolved oxygen and temperature. These measurements are critical for assessing trends in stream water quality and the potential for healthy aerobic populations.
In situ measurements were taken at the site of the water chemistry sample and comprise an important part of characterizing the stream. The purpose of these samples is twofold. First, to understand the habitat within which biota must exist so that we can understand the biological potential of the system and second, to evaluate the quality of the water for the purposes of determining the potential stresses to which the biota are exposed.

4.4 Summary of Data Set Parameters
In situ observations for specific conductance, dissolved oxygen and stream temperature were recorded for one sample taken at the midpoint of the stream reach.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective
To obtain in situ measurements of conductance, DO and temperature of the stream.

5.1.2 Sample Collection Methods Summary
Measurements were made at the midpoint of the stream reach according to the protocols outlined in Lazorchak et. al (1998).

5.1.3 Sampling Start Date
May 1997

5.1.4 Sampling End Date
September 1998

5.1.5 Platform
NA

5.1.6 Sampling Gear
Dissolved oxygen meter and probe, conductivity pen or meter.

5.1.7 Manufacturer of Instruments
NA

5.1.8 Key Variables
NA

5.1.9 Sampling Method Calibration
NA

5.1.10 Sample Collection Quality Control
See Lazorchak, et al. 1998.

5.1.11 Sample Collection Method Reference
Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00 U.S. Environmental Protection Agency, Las Vegas, Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Design

5.2.1 Sample Processing Objective
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.2 Sample Processing Methods Summary
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.3 Sample Processing Method Calibration
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.4 Sample Processing Quality Control
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.5 Sample Processing Method Reference
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None

6.2 Data Manipulation Description
See Chaloud and Peck (1994).

7. DATA DESCRIPTION

7.1 Description of Parameters

Parameter SAS Name	Data Type	Len	Format	Parameter Label
COM_COND	Char	80		Comment for COND_FLD
COM_DO	Char	80		Comment for DO_FLD
COM_QCCS	Char	80		Comment for COND_QCC
COM_TEMP	Char	80		Comment of TEMP_FLD
COND_FLD	Num	8		Field Water Specific Conductance (uS/cm)
COND_QCC	Num	8		QCCS Specific Conductance (uS/cm)
DATE_COL	Num	8	MMDDYY	Date stream visited

7.1 Description of Parameters, continued

DO_FLD	Num	8		Field Dissolved Oxygen (mg/L)
FLG_COND	Char	2		Flag for COND_FLD
FLG_DO	Char	2		Flag for DO_FLD
FLG_QCCS	Char	2		Flag for COND_QCC
FLG_TEMP	Char	2		Flag of TEMP_FLD
LAT_DD	Num	8		X-Site Latitude (decimal degrees)
LON_DD	Num	8		X-Site Longitude (decimal degrees)
SAMPLED	Char	30		Site Sampled Code
STRM_ID	Char	10	$CHAR	Stream ID
TEAM_ID	Char	1		Sampling crew
TEMP_FLD	Num	8		Water Temperature (oC)
TRANSECT	Char	3		Transect where Field Measurement Made
VISIT_NO	Num	8		Within Year Sample Visit Number
YEAR	Num	8		Sample Year

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
COND_FLD	10
COND_QCC	70
DATE_COL	05/20/1997
DO_FLD	0.7
LAT_DD	35.182938
LON_DD	-83.555659
TEMP_FLD	12
VISIT_NO	0
YEAR	1997

7.1.7 Maximum Value in Data Set

Name	Max
COND_FLD	1610
COND_QCC	1680
DATE_COL	09/30/1998
DO_FLD	14.1
LAT_DD	42.600349
LON_DD	-74.662034
TEMP_FLD	40
VISIT_NO	3
YEAR	1998

7.2.1 Column Names for Example Records

"COM_COND","COM_DO","COM_QCCS","COM_TEMP","COND_FLD","COND_QCC","DATE_COL",
"DO_FLD","FLG_COND","FLG_DO","FLG_QCCS","FLG_TEMP","LAT_DD","LON_DD",
"SAMPLED","STRM_ID","TEAM_ID","TEMP_FLD","TRANSECT","VISIT_NO","YEAR"

7.2.2 Example Data Records

```
" "," "," TRANSECT B IS X-SITE"," ",250,1270,09/08/1997,.," "," "," ",
" ",38.247943,-81.886602,"Yes","MAIA97-001","4",.,"F",1,1997

" "," "," "," "," ",170,1270,07/12/1997,6," "," "," "," ",38.550017,-82.144807,
"Yes","MAIA97-002","4",21,"X",1,1997

" "," "," "," "," ",130,1000,08/27/1997,7.5," "," "," "," ",39.067885,-81.388766,
"Yes","MAIA97-003","5",23.8,"X",1,1997
```

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-83 Degrees 33 Minutes 20 Seconds West (-83.555659 Decimal Degrees)

8.2 Maximum Longitude
-74 Degrees 39 Minutes 43 Seconds West (-74.662034 Decimal Degrees)

8.3 Minimum Latitude
35 Degrees 10 Minutes 58 Seconds North (35.182938 Decimal Degrees)

8.4 Maximum Latitude
42 Degrees 36 Minutes 1 Seconds North (42.600349 Decimal Degrees)

8.5 Name of Area or Region
Mid Atlantic: EPA Region III which includes Delaware, Maryland, New York, Virginia, and West Virginia

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives
See Chaloud and Peck (1994).

9.2 Quality Assurance Procedures
See Chaloud and Peck (1994).

9.3 Unassessed Errors
NA

10. DATA ACCESS

10.1 Data Access Procedures

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

10.4 Data Set Format

10.5 Information Concerning Anonymous FTP

10.6 Information Concerning WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00 U.S. Environmental Protection Agency, Las Vegas, Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

12. TABLE OF ACRONYMS

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